PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To:

see form PCT/ISA/220

4/8

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43*bis*.1)

Applicant's or agent's file reference see form PCT/ISA/220	Date of mailing *(day/month/year)* see form PCT/ISA/210 (second sheet) **FOR FURTHER ACTION** See paragraph 2 below

International application No. PCT/IB2005/050194	International filing date *(day/month/year)* 17.01.2005	Priority date *(day/month/year)* 20.01.2004

International Patent Classification (IPC) or both national classification and IPC
G09G5/00, G02B27/00

Applicant
KONINKLIJKE PHILIPS ELECTRONICS, N.V.

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☒ Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notifed the International Bureau under Rule 66.1*bis*(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

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WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/IB2005/050194

Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

   ☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).

2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:

   a. type of material:

   ☐ a sequence listing

   ☐ table(s) related to the sequence listing

   b. format of material:

   ☐ in written format

   ☐ in computer readable form

   c. time of filing/furnishing:

   ☐ contained in the international application as filed.

   ☐ filed together with the international application in computer readable form.

   ☐ furnished subsequently to this Authority for the purposes of search.

3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

4. Additional comments:

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/IB2005/050194

Box No. V Reasoned statement under Rule 43*bis*.1(a)(I) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes:	Claims	3,9,10,12,17,18,20,23
	No:	Claims	1,2,4-8,11,13-16,19,21,22
Inventive step (IS)	Yes:	Claims	3,12,20
	No:	Claims	1,2,4-11,13-19,21-23
Industrial applicability (IA)	Yes:	Claims	1-23
	No:	Claims	

2. Citations and explanations

see separate sheet

Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

see separate sheet

Re Item V

Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1.
Reference is made to the following documents, cited in the International Search Report:

D1: EP-A-1 178 460 (HEWLETT-PACKARD COMPANY) 6 February 2002 (2002-02-06)
D2: US-B1-6 304 286 (SHIRAI KAZUYUKI ET AL) 16 October 2001 (2001-10-16)
D3: US 2003/234799 A1 (LEE BEOM-SEOK) 25 December 2003 (2003-12-25)
D4: WO 01/93230 A (ZN VISION TECHNOLOGIES AG; WERNER, MARTIN; RINNE, MICHAEL; GEHLEN, STE) 6 December 2001 (2001-12-06)

2.
The present reasoned statement has been based on assumptions for certain unclear claims as indicated under Item VIII below.

3.
The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claims 1, 11 and 19 is not new in the sense of Article 33(2) PCT, for the following reasons.

3.1
Document D1 discloses (see par. 1, par. 9, fig.1-3 and par. 12-18, par.22-24; the references in parentheses in the present paragraph applying to this document) a display system and a corresponding method of displaying information on a display device (digital display 25 in fig. 1 and 2), such system comprising a display processor (controller 48 in fig.2) which is configured to present information from a content source to the display device, and a detector (sensors 30, 32 and 34 in fig. 1 and 2) which is configured to detect a position of a viewer (V in fig.2) relative to the display device, where the display processor is configured to present the information to the display device based on the position of the viewer relative to the display device.

The skilled person would also directly and unambiguously understand that in the process of detecting the position of the viewer and consequently controlling the presented information, the processor of the display system must necessarily execute a computer program.
Therefore the combinations of features of each of claim 1, claim 11 and claim 19 are disclosed in D1.

3.2
Furthermore, a display system and a corresponding method of displaying information on a display device comprising the combinations of features of claim 1, claim 11 and claim 19 are disclosed also in D2 (see fig.1, col.1 lines 24-44, col.2 lines 29-49, fig. 3 and 4, col. 3 lines 17-58) and in D3 (see fig.1 and 2, par. 29-33).

4.
Dependent claims 2, 4-10,13-18 and 21-23 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty and/or inventive step, the reasons being as in the following.

4.1
In relation to claim 2, a display device is included in the display system disclosed in D1 (unit 25 in fig.1 and 2), in D2 (unit 15 in fig. 3) and in D3 (unit 10 in fig.1), which renders said claim not new.

4.2
In relation to claims 4, 13 and 21, presentation of information in an area that has a prominent position relative to the viewer is disclosed in D1 (see how the triangular image 58 is adjusted from fig.2 to fig, 3 for different positions of the viewer V), which renders said claims not new.

4.3
In relation to claims 5 and 14, presentation of information originating from a network is disclosed in D1 (see par. 16), which renders said claims not new.

4.4

In relation to claims 6 and 15, the detection of the viewer position by means of infrared devices is disclosed in D2 (see col. 3 lines 47-58), and the same detection by means of reflected energy is disclosed in D1 (see par.24, indicating the use of generic scanning beam technologies, such as those used in radars), which renders said claims not new. Furthermore heat detection would be normally associated to the use of infrared devices, and it would also be obvious to use other well known position detection techniques, such as cameras and image detectors (see e.g. D4, page 7 par.7 - page 8 par.1).

4.5
In relation to claim 7, D2 discloses (see fig. 3, col.3 lines 41-58) a position detector that actually estimates a projection of the image of the viewer on the surface of the display device ("infrared shadows" projected on the surface of the sensors 12a-12c by the viewer in the different positions 19a-19e), which renders said claim not new.

4.6
In relation to claims 8, 16 and 22, D1 discloses control of location and content of the information on the display device based on the position of the viewer (see ref. in par. 4.2 above; the location of the triangle 58 in fig. 2 and 3 is adjusted, and consequently the whole content of the displayed information), which renders said claims not new. Furthermore, control of the size of the displayed information based on said position is disclosed in D3 (see ref. in par. 3.2 above).

4.7
In relation to claims 9, 10, 17, 18 and 23, display systems that comprise a recognition system arranged to identify a viewer, where a display processor presents information on a display device depending on such identification, after selecting a profile in a corresponding database, are well known, see e.g. D4 (page 1 par.4 - page 3 par.3; page 4 par. 2-3; fig.1, page 7 par.7 - page 9 par.3); the skilled person would introduce such a recognition system in the display systems of documents D1-D3 without use of any inventive skill.
Therefore claims 9, 10, 17, 18 and 23 would be obvious to the skilled person.

5.
Dependent claims 3, 12 and 20 are considered to satisfy the requirements of the PCT in respect to novelty and inventive step, since they indicate the determination of an area, on

the surface of the display device, that corresponds to a reflection of the viewer, based on the detected viewer position, and the consequent positioning of the displayed information so as to avoid such area, by which the problem is solved, to avoid that the displayed information be overlapped with the reflection of the viewer on the display; neither such problem nor its solution are known from or hinted at in any way in the available prior art.

Re Item VIII
Certain observations on the international application

1.

The meaning of the following expressions and sentences is not clear and consequently the subject matter of the corresponding claims is unclear, Article 6 PCT.

1.1 "the display device is reflective" in claim 3 (line 2) and in claim 12 (line 2), as the indication "reflective display" is commonly used for displays that modulate the ambient light after reflection on a suitable surface (e.g. reflective LCDs, where a reflective surface is combined with a diffuser), whereas based on the description (see fig.1, page 3 lines 4-18) the indication appears to refer to the reflective surface of a mirror, on which information is displayed.
For drafting the reasoned statement in item V said unclear expression has been construed in conformity with the description.

1.2 "area corresponding to a reflection of the viewer" in claim 3 (lines 4 and 5), as it is not clear to which reflection reference is made.
For drafting the reasoned statement in item V, in conformity with the description (see ref. in par. 1.1. above) and with claims 12 and 20, said unclear expression has been construed as indicating an area corresponding to a reflection of the viewer on the display surface of the display device.

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Applicant's or agent's file reference see form PCT/ISA/220	Date of mailing *(day/month/year)* see form PCT/ISA/210 (second sheet) **FOR FURTHER ACTION** See paragraph 2 below

International application No.	International filing date *(day/month/year)*	Priority date *(day/month/year)*
PCT/IB2005/050194	17.01.2005	20.01.2004

International Patent Classification (IPC) or both national classification and IPC
G09G5/00, G02B27/00

Applicant
KONINKLIJKE PHILIPS ELECTRONICS, N.V.

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
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2. **FURTHER ACTION**

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For further options, see Form PCT/ISA/220.

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WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/IB2005/050194

Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

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2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:

   a. type of material:

   ☐ a sequence listing

   ☐ table(s) related to the sequence listing

   b. format of material:

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   ☐ contained in the international application as filed.

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3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

4. Additional comments:

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International application No.
PCT/IB2005/050194

Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes:	Claims	3,9,10,12,17,18,20,23
	No:	Claims	1,2,4-8,11,13-16,19,21,22
Inventive step (IS)	Yes:	Claims	3,12,20
	No:	Claims	1,2,4-11,13-19,21-23
Industrial applicability (IA)	Yes:	Claims	1-23
	No:	Claims	

2. Citations and explanations

see separate sheet

Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

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Re Item V

Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

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Document D1 discloses (see par. 1, par. 9, fig.1-3 and par. 12-18, par.22-24; the references in parentheses in the present paragraph applying to this document) a display system and a corresponding method of displaying information on a display device (digital display 25 in fig. 1 and 2), such system comprising a display processor (controller 48 in fig.2) which is configured to present information from a content source to the display device, and a detector (sensors 30, 32 and 34 in fig. 1 and 2) which is configured to detect a position of a viewer (V in fig.2) relative to the display device, where the display processor is configured to present the information to the display device based on the position of the viewer relative to the display device.

The skilled person would also directly and unambiguously understand that in the process of detecting the position of the viewer and consequently controlling the presented information, the processor of the display system must necessarily execute a computer program.
Therefore the combinations of features of each of claim 1, claim 11 and claim 19 are disclosed in D1.

3.2
Furthermore, a display system and a corresponding method of displaying information on a display device comprising the combinations of features of claim 1, claim 11 and claim 19 are disclosed also in D2 (see fig.1, col.1 lines 24-44, col.2 lines 29-49, fig. 3 and 4, col. 3 lines 17-58) and in D3 (see fig.1 and 2, par. 29-33).

4.
Dependent claims 2, 4-10,13-18 and 21-23 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty and/or inventive step, the reasons being as in the following.

4.1
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In relation to claims 4, 13 and 21, presentation of information in an area that has a prominent position relative to the viewer is disclosed in D1 (see how the triangular image 58 is adjusted from fig.2 to fig, 3 for different positions of the viewer V), which renders said claims not new.

4.3
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Re Item VIII
Certain observations on the international application

1.

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1.2 "area corresponding to a reflection of the viewer" in claim 3 (lines 4 and 5), as it is not clear to which reflection reference is made.
For drafting the reasoned statement in item V, in conformity with the description (see ref. in par. 1.1. above) and with claims 12 and 20, said unclear expression has been construed as indicating an area corresponding to a reflection of the viewer on the display surface of the display device.